Discussion on "ADTF Spoke Cavity Cryomodule Concept" by J. Patrick Kelley

The ADTF cryomodule design incorporated focusing solenoids inside the cryomodule. Bath-cooling of the solenoids is not considered due to expected pressure pulses in the system, if the coil would quench.
The heat loads due to the power coupler are 3.8 W into 4.5 K and approximately 20 W into the 40 K intercept. These numbers are for a preliminary accelerator design with a gradient of 5 MV/m.
The design concept uses the power coupler outer conductor as part of the support structure. Concern about low-frequency mechanical resonances transferred to the cavity were expressed. Kelley responded that the setup is very stiff, cryo-feeds use flexible connections to decouple them from the system and further stiffening and/or damping can be incorporated, if needed.
The final question addressed a possible use of 2K and the related re-design of this cryomodule. Kelley answered that the top-part of the cryomodule due to the changes in the distribution system would be the only part seeing major changes, also an additional reservoir would have to be added. Inside the cryostat the only change he could see would be an additional intercept at the niobium to stainless transition of the outer conductor of the power coupler. The cryo-vessel itself and the helium vessel would not need any changes.